

SEQUENCE LISTING

<110> Stewart Jr., C. Neal
Broadway, Roxanne M.

<120> CABBAGE PROTEINASE INHIBITOR GENE CONFERS RESISTANCE
AGAINST PLANT PESTS

<130> 19603/2420

<140>

<141>

<160> 12

<170> PatentIn Ver. 2.1

<210> 1

<211> 809

<212> DNA

<213> Brassica oleracea

<220>

<221> source

<222> (1)..(809)

<223> Serine proteinase inhibitor

<400> 1

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<213> Brassica oleracea

<220>

<221> PEPTIDE

<222> (1)..(214)

<223> Serine proteinase inhibitor

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Ala Thr Ala Asn Ala Gly Pro Val Leu Asp Thr Asp Gly Asp Ile Ile
20 25 30

Phe Asp Gly Ser Tyr Tyr Val Leu Pro Leu Ile Trp Gly Pro Thr Gly
35 40 45

Gly Gly Leu Thr Leu Val Ser Arg Arg Gly Asn Gln Cys Pro Leu Phe
50 55 60

Ile Gly Gln Glu Arg Ser Glu Val Asn Arg Gly Ile Pro Val Lys Phe
65 70 75 80

Ser Asn Trp Arg Ser Arg Val Gly Phe Val Pro Glu Glu Glu Asn Leu
85 90 95

Asn Ile Lys Met Asp Val Glu Pro Thr Ile Cys Ala Gln Ser Ala Tyr
100 105 110

Trp Trp Val Thr Pro Ala Pro Ser Pro Trp Arg Ser Leu Phe Ile Ala
115 120 125

Ala Gly Pro Lys Pro Glu Ala Gly Gly Glu Asp Ser Ser Arg Ser Phe
130 135 140

Phe Gln Ile Lys Lys Thr Glu Ala Lys Leu Asn Ala Tyr Lys Phe Val
145 150 155 160

Phe Cys Ser Glu Gly Asn Asp Cys Ile Asp Val Gly Lys Asn Glu Glu
165 170 175

Gly Gly Val Arg Gly Leu Val Leu Gly Ser Thr Pro Pro Phe Ala Thr
180 185 190

Pro Phe Glu Val Val Phe Val Lys Ala Thr Gly Thr Asp Thr Ser Ser
195 200 205

Lys Thr Met Ser Ile Ile
210

<210> 3
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 <213> G. max (soybean)

 <220>
 <221> PEPTIDE
 <222> (1)..(216)
 <223> Kunitz-type trypsin inhibitor 3

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 Asn Pro Leu Glu Asn Gly Gly Thr Tyr Tyr Ile Leu Ser Asp Ile Thr
 35 40 45

 Ala Phe Gly Gly Ile Arg Ala Ala Pro Thr Gly Asn Glu Arg Cys Pro
 50 55 60

 Leu Thr Val Val Gln Ser Arg Asn Glu Leu Asp Lys Gly Ile Gly Thr
 65 70 75 80

 Ile Ile Ser Ser Pro Tyr Arg Ile Arg Phe Ile Ala Glu Gly His Pro
 85 90 95

 Leu Ser Leu Lys Phe Asp Ser Phe Ala Val Ile Met Leu Cys Val Gly
 100 105 110

 Ile Pro Thr Glu Trp Ser Val Val Glu Asp Leu Pro Glu Gly Pro Ala
 115 120 125

 Val Lys Ile Gly Glu Asn Lys Asp Ala Met Asp Gly Trp Phe Arg Leu
 130 135 140

 Glu Arg Val Ser Asp Asp Glu Phe Asn Asn Tyr Lys Leu Val Phe Cys
 145 150 155 160

 Pro Gln Gln Ala Glu Asp Asp Lys Cys Gly Asp Ile Gly Ile Ser Ile
 165 170 175

 Asp His Asp Asp Gly Thr Arg Arg Leu Val Val Ser Lys Asn Lys Pro
 180 185 190

Gly Thr Val Gly Thr Ile Pro Gly Pro Trp Leu Ser Ala Pro Gln Leu
165 170 175

Ile Val Thr Asn Asp Glu Ser Lys Thr Leu Phe Val Lys Phe Val Lys
180 185 190

Val Asp Asp Ala Ala Thr Lys Ala Thr Thr Ser Thr Ser Arg Val Glu
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Lys Leu Gly Leu Lys Met Phe Pro Phe Tyr
210 215

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<211> 17

<212> PRT

<213> Brassica oleracea

<220>

<221> PEPTIDE

<222> (1)..(17)

<223> BoPI peptide

<400> 5

Val Leu Asp Thr Asp Gly Asp Ile Ile Phe Asp Gly Ser Tyr Tyr Val
1 5 10 15

Leu

<210> 6

<211> 37

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Kunitz
inhibitor family amino-terminal conserved region

<220>

<221> PEPTIDE

<222> (1)..(37)

<223> Xaa at any position is any amino acid

<400> 6

Leu Ile Val Asp Xaa Asp Xaa Glu Asp Asn Thr Tyr Asp Gly Arg Lys

1 5 10 15
 His Asp Glu Asn Gln Xaa Leu Ile Val Met Xaa Xaa Xaa Xaa Xaa Tyr
 20 25 30
 Xaa Leu Ile Val Met
 35

<210> 7
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 <212> DNA
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<220>
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<220>
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 acgaccaatt tacagcccag 20

<210> 10
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<212> DNA
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peptides

<400> 10
gttgtacaaa cgcttcctc agc 23

<210> 11
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<220>
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<210> 12
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